

Use Attainability Analysis
for
WBID 0478 Grantham Creek

Submitted by
SES Inc.
to
Missouri Department of Natural Resources
Water Protection Program

Date received: November 14, 2007

Field Data Sheets for Recreation Use Stream Surveys

Data Sheet A - Water Body Identification

I. Water Body Information (For water body being surveyed)

Water Body Name (from USGS 7.5' quad):	Grantham Creek		
Missouri Water Body Identification (WBID) Number:	478		
8 digit HUC code:	10280101	County:	Nodaway
Upstream Legal Description (from Table H):	T65N	R33W	Sec. 28
Downstream Legal Description (from Table H):	T64N	R32W	Sec. 18
Number of sites evaluated:	3		
List all site numbers, listed consequently upstream to downstream: 1, 2, 3			

Site Locations Map(s): Attach a map of the entire segment with assessment sites clearly labeled.
Mark any other items that may be of interest.

II. Facility Information (list all permitted discharges to the water body segment)

Facility Name(s) and Permit Number(s): Parnell WWTF MO 0125636
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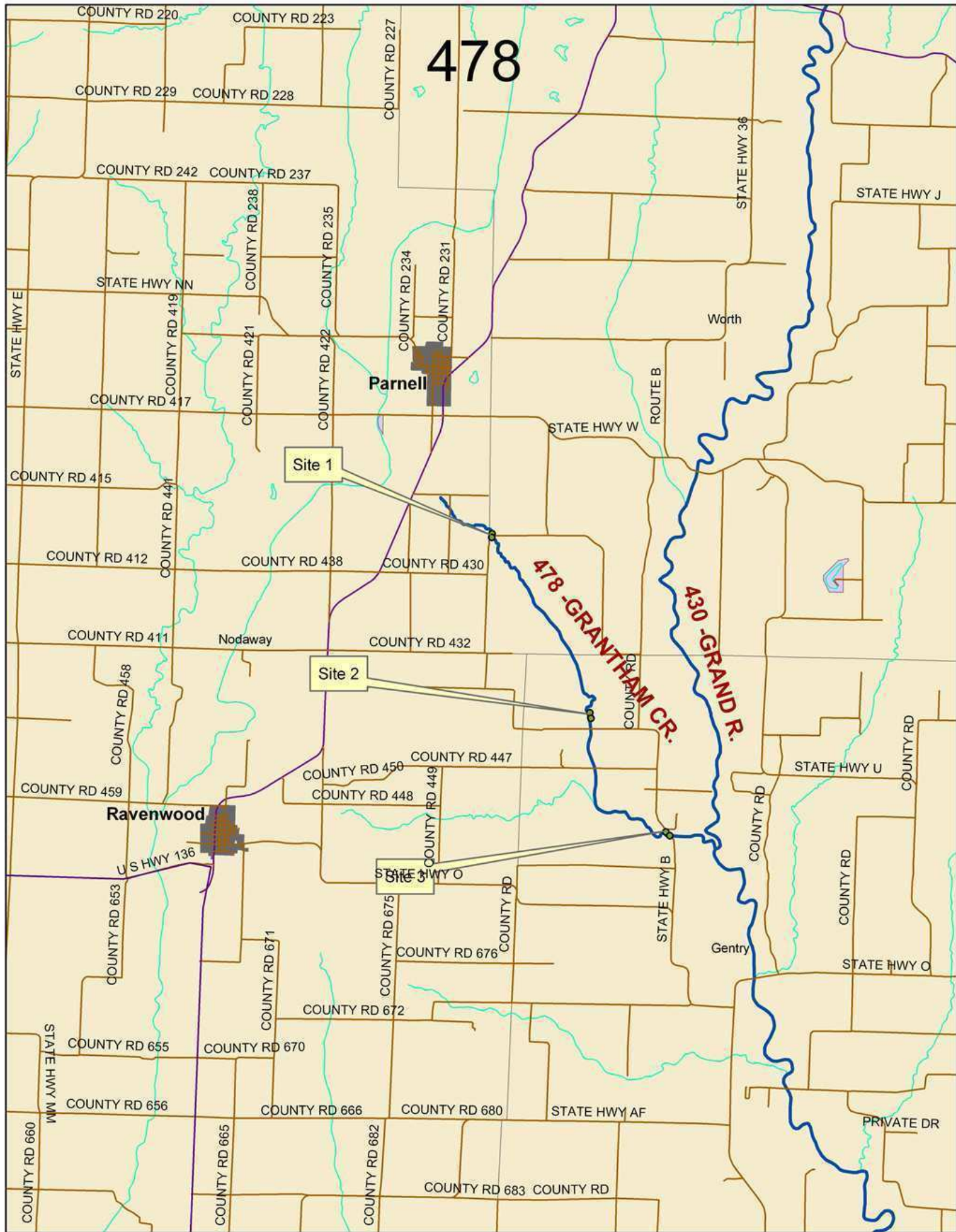
III. UAA Surveyor (please print legibly)

Name of Surveyor:	Gilisa Gould	Telephone Number:	913.307.0054
Organization/Employer:	SES, Inc		

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Signed: gilisa gould **Date:** 10.04.07

478



WBID # 478
 Site # 1

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9.18.07	17:15	Site Location Description (e.g. road crossing):
Personnel: D. Dodson & G. Gould	E. of Highway 46	
Current Weather Conditions: cloudy	Facility Name:	Parnell WWTF
Weather conditions for the past 10 days: no precip	Permit Number:	MO 0125636
Drought conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>		

Site Location:

Location Coordinates (Universal Transverse Mercator Projection, In Meters)					
Site 01	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	1363607	4474369		6.1	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	0363600	4474289		11.3	

Photos:

Photo ID#	Photo Purpose	Photo ID#:	Photo Purpose	Photo ID#:	Photo Purpose
38	upstream	39	downstream		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe:				

WBID # 478
Site # 1

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:
Comments: none				

Evidence of Human Use:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering
comments/other: none				

Substrate:

% Cobble	% Gravel	% Sand 100	% Silt	% Mud/Clay	% Bedrock
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Aquatic Vegetation:

none

Water Characteristics:

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 478
Site # 1

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization (continued)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

none

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Surveyor's Signature: gilisa gould Date of Survey: 9.18.07

Organization: SES, Inc. Position: field team leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>478</u> Site #: <u>1</u> Estimated Channel Incision: <u>4.0</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0363607</u> UTM Y: <u>4474369</u> +/- <u>6.1</u> (meters) 11 UTM X: <u>0363600</u> UTM Y: <u>4474289</u> +/- <u>11.3</u> (meters) Average Stream Width: <u>2.3</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Drew Dodson</u> and <u>Gilisa Gould</u>	Dissolved Oxygen Date: <u>9.18.07</u> Time: <u>17:17</u> Dissolved Oxygen: <u>13.9</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>22</u> (°C)
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Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.4	0.01	0.5	0.01	0.2	0.00	0.3	0.00	0.2	0.01	0.1	0.01	0.3	0.01	0.1	0.01	0.1	0.05	0.2	0.01	0.4	0.01
2	0.7	0.01	0.9	0.00	0.4	0.00	0.5	0.00	0.4	0.01	0.2	0.00	0.5	0.05	0.2	0.01	0.2	0.05	0.4	0.05	0.7	0.01
3	1.1	0.00	1.4	0.01	0.5	0.00	0.8	0.00	0.5	0.00	0.3	0.00	0.8	0.01	0.3	0.01	0.3	0.05	0.5	0.10	1.1	0.00
4	1.5	0.00	1.8	0.00	0.7	0.00	1.1	0.00	0.7	0.00	0.4	0.01	1.1	0.00	0.4	0.01	0.4	0.05	0.7	0.15	1.5	0.00
5	1.9	0.00	2.3	0.00	0.9	0.00	1.4	0.00	0.9	0.01	0.5	0.01	1.4	0.00	0.5	0.01	0.5	0.05	0.9	0.15	1.9	0.00
6	2.2	0.00	2.8	0.00	1.1	0.00	1.6	0.00	1.1	0.01	0.5	0.01	1.6	0.01	0.5	0.01	0.5	0.10	1.1	0.15	2.2	0.00
7	2.6	0.00	3.2	0.00	1.3	0.00	1.9	0.00	1.3	0.00	0.6	0.00	1.9	0.10	0.6	0.01	0.6	0.05	1.3	0.15	2.6	0.00
8	3.0	0.00	3.7	0.00	1.4	0.00	2.2	0.00	1.4	0.00	0.7	0.01	2.2	0.15	0.7	0.01	0.7	0.05	1.4	0.10	3.0	0.00
9	3.3	0.00	4.1	0.00	1.6	0.00	2.4	0.00	1.6	0.00	0.8	0.01	2.4	0.05	0.8	0.01	0.8	0.01	1.6	0.05	3.3	0.10
Right Bank	3.7	0.00	4.6	0.00	1.8	0.00	2.7	0.00	1.8	0.00	0.9	0.00	2.7	0.00	0.9	0.00	.9	0.00	1.8	0.00	3.7	0.00
Feature Type (riffle, run, or pool)	run		run		run		run		run		run		run		run		run		run		run	

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Signed: gilisa gould Date: 10.04.07

WBID # 478
 Site # 2

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9.18.07 18:00	Site Location Description (e.g. road crossing):
Personnel: D. Dodson & G. Gould	upstream of C.R. #1
Current Weather Conditions: cloudy	Facility Name: Parnell WWTF
Weather conditions for the past 10 days: no precip	Permit Number: MO 0125636
Drought conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

Site Location:

Location Coordinates (Universal Transverse Mercator Projection, In Meters)					
Site 01	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	0365615	4470687		5.8	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	0365639	4470574		8.5	

Photos:

Photo ID#	Photo Purpose	Photo ID#:	Photo Purpose	Photo ID#:	Photo Purpose
40	upstream	41	downstream		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe:				

WBID # 478
Site # 2

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:
Comments: none				

Evidence of Human Use:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering
comments/other: none				

Substrate:

% Cobble	% Gravel	% Sand 100	% Silt	% Mud/Clay	% Bedrock
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Aquatic Vegetation:

80% algae on substrate

Water Characteristics:

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 478
Site # 2

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization (continued)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

none

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Surveyor's Signature: gilisa gould Date of Survey: 9.18.07

Organization: SES, Inc Position: field team leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>478</u> Site #: <u>2</u> Estimated Channel Incision: <u>4.0</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0365615</u> UTM Y: <u>4470687</u> +/- <u>5.8</u> (meters) 11 UTM X: <u>0365639</u> UTM Y: <u>4470574</u> +/- <u>8.5</u> (meters) Average Stream Width: <u>3.3</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Drew Dodson</u> and <u>Gilisa Gould</u>	Dissolved Oxygen Date: <u>9.18.07</u> Time: <u>18:00</u> Dissolved Oxygen: <u>12.6</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>21.8</u> (°C)
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Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.6	0.05	0.2	0.01	0.3	0.01	0.4	0.01	0.6	0.01	0.3	0.10	0.1	0.01	0.2	0.01	0.4	0.01	0.2	0.01	0.5	0.01
2	1.3	0.01	0.4	0.01	0.5	0.01	0.7	0.01	1.3	0.05	0.5	0.15	0.2	0.01	0.4	0.01	0.7	0.01	0.4	0.01	0.9	0.01
3	1.9	0.00	0.5	0.01	0.8	0.05	1.1	0.01	1.9	0.00	0.8	0.05	0.3	0.05	0.5	0.01	1.1	0.01	0.5	0.01	1.4	0.00
4	2.6	0.01	0.7	0.01	1.1	0.01	1.5	0.00	2.6	0.00	1.1	0.00	0.4	0.05	0.7	0.05	1.5	0.01	0.7	0.01	1.8	0.00
5	3.2	0.00	0.9	0.01	1.4	0.01	1.9	0.00	3.2	0.01	1.4	0.01	0.5	0.05	0.9	0.05	1.9	0.01	0.9	0.01	2.3	0.00
6	3.8	0.00	1.1	0.01	1.6	0.01	2.2	0.01	3.8	0.01	1.6	0.05	0.5	0.05	1.1	0.05	2.2	0.05	1.1	0.01	2.8	0.00
7	4.5	0.05	1.3	0.01	1.9	0.01	2.6	0.05	4.5	0.01	1.9	0.05	0.6	0.05	1.3	0.05	2.6	0.01	1.3	0.01	3.2	0.05
8	5.1	0.15	1.4	0.01	2.2	0.01	3.0	0.05	5.1	0.05	2.2	0.01	0.7	0.01	1.4	0.05	3.0	0.05	1.4	0.05	3.7	0.05
9	5.8	0.10	1.6	0.01	2.4	0.01	3.3	0.05	5.8	0.05	2.4	0.01	0.8	0.01	1.6	0.01	3.3	0.05	1.6	0.05	4.1	0.01
Right Bank	6.4	0.00	1.8	0.00	2.7	0.00	3.7	0.00	6.4	0.00	2.7	0.00	0.9	0.00	1.8	0.00	3.7	0.00	1.8	0.00	4.6	0.00
Feature Type (riffle, run, or pool)	run		run		run		run		run		run		run		run		run		run		run	

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Signed: gilisa gould Date: 10.04.07

WBID # 478
 Site # 3

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9.18.07 18:42	Site Location Description (e.g. road crossing):
Personnel: D. Dodson & G. Gould	Highway B
Current Weather Conditions: cloudy	Facility Name: Parnell WWTF
Weather conditions for the past 10 days: no precip.	Permit Number: MO 0125636
Drought conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

Site Location:

Location Coordinates (Universal Transverse Mercator Projection, In Meters)					
Site 01	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	0367177	4468237		2.4	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	0367258	4468159		3.0	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
43	upstream	44	downstream		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe:				

WBID # 478
Site # 3

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:

Comments:

none

Evidence of Human Use:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering

comments/other:

none

Substrate:

% Cobble	% Gravel	% Sand 90	% Silt	% Mud/Clay 10	% Bedrock
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Aquatic Vegetation:

none

Water Characteristics:

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 478
Site # 3

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization (continued)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

none

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Surveyor's Signature: gilisa gould Date of Survey: 9.18.07

Organization: SES, Inc Position: field team leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>478</u> Site #: <u>3</u> Estimated Channel Incision: <u>2.0</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0367177</u> UTM Y: <u>4468237</u> +/- <u>2.4</u> (meters) 11 UTM X: <u>0367258</u> UTM Y: <u>4468159</u> +/- <u>3</u> (meters) Average Stream Width: <u>2.3</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Drew Dodson</u> and <u>Gilisa Gould</u>	Dissolved Oxygen Date: <u>9.18.07</u> Time: <u>18:54</u> Dissolved Oxygen: <u>12.7</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>22.3</u> (°C)
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Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.2	0.05	0.3	0.01	0.2	0.01	0.4	0.01	0.3	0.01	0.5	0.01	0.2	0.01	0.1	0.01	0.2	0.01	0.3	0.01	0.1	0.01
2	0.4	0.10	0.5	0.01	0.4	0.01	0.7	0.01	0.5	0.01	0.9	0.01	0.4	0.01	0.2	0.01	0.4	0.05	0.5	0.01	0.2	0.01
3	0.5	0.10	0.8	0.05	0.5	0.05	1.1	0.01	0.8	0.01	1.4	0.01	0.5	0.01	0.3	0.01	0.5	0.01	0.8	0.00	0.3	0.01
4	0.7	0.15	1.1	0.01	0.7	0.01	1.5	0.00	1.1	0.01	1.8	0.01	0.7	0.01	0.4	0.01	0.7	0.00	1.1	0.05	0.4	0.01
5	0.9	0.10	1.4	0.00	0.9	0.01	1.9	0.00	1.4	0.00	2.3	0.01	0.9	0.01	0.5	0.01	0.9	0.00	1.4	0.05	0.5	0.01
6	1.1	0.10	1.6	0.00	1.1	0.01	2.2	0.00	1.6	0.01	2.8	0.01	1.1	0.01	0.5	0.01	1.1	0.00	1.6	0.10	0.5	0.01
7	1.3	0.05	1.9	0.01	1.3	0.00	2.6	0.01	1.9	0.05	3.2	0.01	1.3	0.01	0.6	0.01	1.3	0.00	1.9	0.05	0.6	0.01
8	1.4	0.05	2.2	0.01	1.4	0.01	3.0	0.01	2.2	0.00	3.7	0.01	1.4	0.01	0.7	0.01	1.4	0.01	2.2	0.05	0.7	0.01
9	1.6	0.01	2.4	0.01	1.6	0.01	3.3	0.01	2.4	0.01	4.1	0.01	1.6	0.01	0.8	0.01	1.6	0.01	2.4	0.01	0.8	0.01
Right Bank	1.8	0.00	2.7	0.00	1.8	0.00	3.7	0.00	2.7	0.00	4.6	0.00	1.8	0.00	0.9	0.00	1.8	0.00	2.7	0.00	0.9	0.00
Feature Type (riffle, run, or pool)	run		run		run		run		run		run		run		run		run		run		run	

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Signed: gilisa gould Date: 10.04.07

WBID# 0478



Site# 1 Photo ID# 38, Upstream



Site# 1 Photo ID# 39, Downstream



Site# 2 Photo ID# 40, Upstream



Site# 2 Photo ID# 41, Downstream

WBID# 0478



Site# 3 Photo ID# 43, Upstream



Site# 3 Photo ID# 44, Downstream